REMARKS

At the outset, the Examiner is thanked for the review and consideration of the present application. Additionally, the Examiner is thanked for indicating the allowance of claims 1-55.

The Examiner's Office Action dated January 2, 2002 has been received and its contents reviewed. By this Amendment, claims 56-65 have been amended. Claims 1-130 are pending in the present application.

Referring now to the Office Action, claims 56-130 are rejected under 35 U.S.C. § 103(a) as unpatentable over JP 1-156725 (hereafter JP '725) in view of Wakai (U.S. Patent No. 5,055,899 - hereafter Wakai). This rejection is respectfully traversed at least for the reasons provided below.

Independent claims 57, 59, 60, 62, 64 and 65 have been amended as shown above to further recite that the thin film transistors comprising at least a semiconductor film and a gate electrode adjacent to the semiconductor film with a gate insulating film interposed therebetween. Support for this feature can be found at least in, e.g., Figs. 7F and 9F of the present application.

Furthermore, independent claims 56, 58, 61 and 63 have been amended as shown above to recite that a surface of a pixel electrode is conformal to a rounded edge of a leveling film at a contact hole. Support for this feature can be found in, e.g., Fig. 9F of the present application.

Applicants respectfully submit that JP '725 discloses that a pixel electrode 48 entirely fills in a contact hole and is not conformal to a rounded edge of a leveling film 52, as shown in Fig. 4 of JP '725, for example.

In addition, although JP '275 shows a gate insulating film 44 and another insulating film 46 (an "interlayer" insulating film), JP '275 does not teach, disclose, or suggest using inorganic material for the other insulating film.

Applicants respectfully submit that the requirements for establish a *prima facie* case of obviousness, as detailed in MPEP § 2143 - 2143.03 (pages 2100-122 - 2100-136), are: first, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to combine the teachings; second, there must be a reasonable expectation of success; and, finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.

Applicants respectfully submit that neither JP '275 nor Kawai disclose, teach, or suggest Applicants' claimed invention, including the thin film transistors comprising at least a semiconductor film and a gate electrode adjacent to the semiconductor film with a gate insulating film interposed therebetween, as recited in amended claims 57, 59, 60, 62, 64 and 65, and a surface of a pixel electrode is conformal to a rounded edge of a leveling film at a contact hole, as recited in amended claims 56, 58, 61 and 63. Therefore, a prima facie case of obviousness has not been established.

In view of the foregoing amendments and arguments, Applicants respectfully request reconsideration and withdrawal of the U.S.C. § 103(a) rejections of claims 56-130.

CONCLUSION

Having responded to all rejections set forth in the outstanding non-Final Office Action, it is submitted that claims 56-130 are now in condition for allowance. An early and favorable Notice of Allowance is respectfully solicited. In the event that the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, the Examiner is courteously requested to contact Applicants' undersigned representative.

Respectfully submitted,

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VERSION OF AMENDED CLAIM WITH MARKINGS TO SHOW CHANGES MADE

56. (Twice Amended) A display device comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof;

an insulating film comprising an inorganic material formed over said semiconductor film;

a first contact hole in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said semiconductor film;

a second [opening] contact hole through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly connected to said semiconductor film through said second [opening] contact hole,

wherein an edge of said leveling film at a periphery of said second [opening] contact hole is rounded[.],

wherein a surface of said pixel electrode is conformal to the rounded edge of said leveling film at said second contact hole.

57. (Twice Amended) A display device comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said semiconductor film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through a contact hole formed in said insulating film;

a leveling film comprising an organic resin provided over said semiconductor film, said insulating film and said wiring;

an opening through said leveling film and said insulating film; and

a pixel electrode formed over said leveling film and directly connected to said semiconductor film through said opening,

wherein a diameter of said opening is larger at an uppermost surface of said leveling film than at a lowermost surface thereof.

58. (Twice Amended) A display device comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof;

an insulating film over said semiconductor film, said insulating film comprising an inorganic material;

a leveling film comprising an organic resin formed over said insulating film; and

a pixel electrode formed over said leveling film and directly connected to said semiconductor film through an opening provided in said leveling film,

wherein an edge of said organic resin film at a periphery of said opening is rounded[.],

wherein a surface of said pixel electrode is conformal to the rounded edge of said leveling film at said opening.

59. (Twice Amended) A display device comprising:

a plurality of thin film transistors formed over a substrate, each of said thin film transistors comprising at least a semiconductor film and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film formed over said semiconductor film, said insulating film comprising an inorganic material;

a first opening formed in said insulating film over said semiconductor film;

a leveling layer formed over said insulating film to provide a leveled upper surface, wherein said leveling layer comprises an organic resin and is prevented from directly contacting said semiconductor film by said insulating film;

a second opening through said leveling layer and said insulating film over said semiconductor film; and

a pixel electrode formed over said leveled upper surface, said pixel electrode being directly connected to said semiconductor film through said second opening.

60. (Twice Amended) A display device comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said semiconductor film;

a first contact hole formed in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said semiconductor film;

a second [opening] contact hole through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly contacting said semiconductor film through said second [opening] contact hole.

61. (Twice Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof;

an insulating film comprising an inorganic material formed over said semiconductor film;

a first contact hole in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said semiconductor film;

a second [opening] contact hole through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly connected to said semiconductor film through said second [opening] contact hole,

wherein an edge of said leveling film at a periphery of said second [opening] contact hole is rounded[.],

wherein a surface of said pixel electrode is conformal to the rounded edge of said leveling film at said second contact hole

62. (Twice Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said semiconductor film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through a contact hole formed in said insulating film;

a leveling film comprising an organic resin provided over said semiconductor film, said insulating film and said wiring;

an opening through said leveling film and said insulating film; and

a pixel electrode formed over said leveling film and directly connected to said semiconductor film through said opening,

wherein a diameter of said opening is larger at an uppermost surface of said leveling film than at a lowermost surface thereof.

63. (Twice Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof;

an insulating film over said semiconductor film, said insulating film comprising an inorganic material;

a leveling film comprising an organic resin formed over said insulating film; and

a pixel electrode formed over said leveling film and directly connected to said semiconductor film through an opening provided in said leveling film,

wherein an edge of said organic resin film at a periphery of said opening is rounded[.],

wherein a surface of said pixel electrode is conformal to the rounded edge of said leveling film at said opening

64. (Twice Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

a plurality of thin film transistors formed over a substrate, each of said thin film transistors comprising at least a semiconductor film and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film formed over said semiconductor film, said insulating film comprising an inorganic material;

a first opening formed in said insulating film over said semiconductor film;

a leveling layer formed over said insulating film to provide a leveled upper surface, wherein said leveling layer comprises an organic resin and is prevented from directly contacting said semiconductor film by said insulating film;

a second opening through said leveling layer and said insulating film over said semiconductor film; and

a pixel electrode formed over said leveled upper surface, said pixel electrode being directly connected to said semiconductor film through said second opening.

65. (Twice Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said semiconductor film;

a first contact hole formed in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said semiconductor film;

a second opening through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly contacting said semiconductor film through said second opening.